



RISK ASSESSMENTS **...Professional Evaluation of the Need** **for Remedial Action**

OBJECTIVE

Oil and Hazardous Materials (OHM) may be present in concentrations above generally applicable State Standards (Method 1 Risk Criteria) but still not pose a Significant Risk of harm to health, safety, public welfare, and the environment. This condition exists because multiple protocols may be used to evaluate the same risk exposure. Risk Assessments not only can be used to determine if a Condition of No Significant Risk exists but can be used to establish cleanup goals for specific exposure scenarios or limitations, such as under Activity and Use Limitations (AULs).

RISK ASSESSMENT METHODS

The Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, Massachusetts General Law (M.G.L.) Chapter 21E, and U.S. Environmental Protection Agency (USEPA) Comprehensive Environmental Response Compensation and Liability Act (CRECLA) regulations establish several methods for evaluating environmental risk and assessing acceptable risk thresholds. Clean Properties staff are experienced in the application of these methods for evaluating risk and determining appropriate remedial response.

MCP Method 1 Risk Assessment

MCP Method 1 Risk Assessments are similar to USEPA “Screening” Risk Assessments in that they are performed by comparing test results to prescribed numerical Standards. Method 1 is applicable when contaminants are present only in soil and groundwater. Numerical Standards were developed to be conservatively protective of exposure risks, so No Significant Risk demonstrated by compliance with Method 1 Standards typically indicates achievement of a lower risk condition than other methods. MCP 1 Risk Assessments, however, are quicker and generally less expensive to perform than alternative methods. Method 1 Risk Assessments can serve as useful intermediate tools, meeting regulatory requirements for risk evaluation when it is obvious that a Condition of No Significant Risk has not yet been achieved.

MCP Method 2 Risk Assessment

MCP Method 2 Risk Assessment follows the protocols used to develop Method 1 Standards to create new numerical standards for a constituents not yet considered under Method 1 by the State. Accordingly, Method 2 Risk Assessment also is expected to be conservatively protective and applies to contaminants present only in soil and groundwater.

MCP Method 3 Risk Assessment

MCP Method 3 Risk Assessment incorporates exposure and contaminant conditions specific to the contaminant site being evaluated. Method 3 thus can be used to evaluate risk associated with contaminated media other than soil and groundwater (such as air and sediment), receptors other than humans, differences in exposure potential due to land use or reasonably foreseeable activities, limitations on exposure due to the presence of pavement or other barriers, or operation of an engineering control such as a sub-slab depressurization system. Method 3 Risk Assessments are designed to reflect actual conditions and therefore need not be excessively conservative. Clean Properties uses contaminant toxicity and carcinogenic risk factors reflective of the best available current literature for each contaminant of concern. Because of flexibility to consider any contaminant condition or exposure pathway, Method 3 Risk Assessment can be used to calculate cleanup targets for any given exposure scenario or risk level (such as an Imminent Hazard instead of a Significant Risk).

EXPERIENCE

Clean Properties’ team of expert environmental scientists and engineers have all the technical skills to address the most complex Risk Assessments. Risk Assessment results are fully documented and presented in a manner designed to facilitate regulatory review and approval. Clean Properties often supports other environmental consulting firms by providing them with scientifically defensible risk assessments. Judicial timely use of Risk Assessments can save substantially on the cost of conducting Remedial Response Actions without sacrificing health or safety.

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